College Station Utilities
Reliable, Affordable, Community Owned

P.O. Box 9960
1601 Graham Road
College Station, TX 77842

Do you know what's in your drinking water? Look inside to find out!

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College Station Utilities
Reliable, Affordable, Community Owned

# DRINKING WATER QUALITY REPORT 2005

(979) 764-3660
http://www.cstx.gov/utilities

CITY OF COLLEGE STATION

## EDUCATION & OUTREACH: WHAT'S YOUR WATER IQ?

A recent study found that only 28% of Texans say they "definitely know" the source of their drinking water (Texas Water Development Board, 2004). Fortunately, the same study also found that 87% of Texans say they are more likely to conserve water after learning more about why it is important and how they can use water more efficiently.

College Station aims to raise its customers' Water IQ through its water and wastewater education programs. For each of the past three years, College Station Utilities has reached over 6,000 customers through facility tours, presentations, special events, and school curriculums.

School curriculums sponsored by College Station include the Texas Water Development Board's award-winning "Major Rivers" 4th/5th grade curriculum, and Resource Action Programs' highly successful "Learning to be Water Wise" curriculum for 5th/6th grade. Both programs teach students about water resources and the importance of water conservation, and support TEKS objectives for social studies, science, language arts and math. Contact Jennifer Nations, Water Resource Coordinator, at 764-6223 or jnations@cstx.gov to learn more about these programs.

## COLLEGE STATION UTILITIES QUICK REFERENCE GUIDE

***UTILITY SERVICE CENTER***
Mapping, Field Operations, Administration
(979) 764-3660
1601 Graham Road
P.O. Box 9960
College Station, TX 77842

***UTILITY CUSTOMER SERVICE***
Bill payment, connect/disconnect utilities
(979) 764-3535 / 1-800-849-6623
http://www.epay.cstx.gov/
310 Krenek Tap Road
PO Box 10230
College Station, TX 77842-0230

***AFTER HOURS / EMERGENCY***
Line breaks, sewer backups, power outages
(979) 764-3638 (available 24 hours)

***WATER CONSERVATION / PUBLIC EDUCATION***
Presentations, field trips, water conservation tips
(979) 764-6223

***ENVIRONMENTAL SERVICES***
Backflow Prevention, Water Quality,
Grease/Grit Trap Inspections
(979) 764-3660

***ENERGY CONSERVATION***
Audits, rebates, conservation tips
(979) 764-3724 / 764-6274

**EN ESPAÑOL: Este reporte incluye información importante sobre el agua para tomar. Para asistancia en español, favor de llamar al telefono (979) 764-3433.**

College Station Utilities
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**A leading Utility providing high quality, customer-owned services to College Station.**

## About This Report

We are proud to report that, once again in 2005, College Station's drinking water quality met the requirements of all State and Federal drinking water regulations.

Every day, College Station's water is sampled for one contaminant or another. In fact, although College Station's water is required to be tested for over 100 different contaminants to ensure compliance with the Safe Drinking Water Act (SDWA), only nine (9) regulated contaminants were detected, all well below SDWA limits. The results of those tests, conducted from January 1, 2002 through December 31, 2005, are explained in this report.

College Station Utilities takes pride in providing the highest quality drinking water possible. If you have any questions about the data contained in this report, please call Jennifer Nations, Water Resource Coordinator, at 764-6223 or send an email to jnations@cstx.gov.

Sincerely,
John C. Woody
College Station Utilities Director




| WATER UTILITY PROFILE - 2005 | |
|---|---|
| Annual System Demand | 4.066 Billion Gallons |
| System Capacity | 25.8 Million Gallons per Day (MGD) |
| Peak Day | 20.628 Million Gallons |
| Average Daily Demand | 10.514 Million Gallons |
| Daily Demand per Person | 137 gallons per capita per day (gpcd) |
| Water from other Sources | 630,000 gallons from TAMU on 12/1505 |
| Water Source | Groundwater |
| Source Aquifer | Carrizo-Wilcox Aquifer, Simsboro Sand |
| Number of Wells | 6 Simsboro wells in production |
| Well Depth | 2,500 – 3,000 feet |
| Ground Water Temperature | 118º F |
| Treated Water Temperature | 85ºF |
| Treatment Process | Cooling, Aeration, and Chlorination |
| Service Area | 48.6 Square Miles |

## COLLEGE STATION UTILITIES: A *SUPERIOR* Public Water System

College Station's water system has been designated a Superior Public Water System by the Texas Commission on Environmental Quality (TCEQ). "Superior" is the highest rating that the State of Texas can give to a public water system. College Station attained this rating by a commitment to providing safe, high quality drinking water to our customers, and by performing better than the minimum State and Federal standards for drinking water.

## Opportunities for Public Involvement

College Station Utilities is part of the City of College Station municipal government. There are numerous ways for you to learn more about your water and wastewater utility.

**Attend a College Station City Council Meeting:**
2nd & 4th Thursday of the month
College Station City Hall 1101 Texas Avenue
Meeting Agendas: City Secretary (979) 764-3541
Watch from Home: City Council Meetings available on Cable Channel 19 or go to http://www.cstx.gov and click on the link for 'CSTV Channel 19'.

**Bring the Water Utility to You:**
A great way to get more involved in your water and wastewater system is by scheduling a plant tour or group presentation. Contact Jennifer Douglass Nations at (979) 764-6223 or email jnations@cstx.gov.

**Enroll in Citizens University:**
This free 10-week program is designed to promote better understanding of local government and encourage positive participation in the process. Applications are accepted in the fall and the program runs late January - early April. To learn more, go to http://www.cstx.gov and click on *Community Programs*.

*Each month, College Station Environmental Technicians collect a minimum of 90 bacteriological samples, like this one, to monitor College Station's drinking water quality. These samples are analyzed for Coliform bacteria at the Brazos County Health Department.*



## CAPITAL PROJECTS UPDATE - BUILDING TO MEET CUSTOMER NEEDS

In 2005, College Station continued work on several Capital Improvement Projects aimed at improving system reliability and meeting customer needs. Here is a sample of current capital improvement projects:
- Minor Aquifers Project: New water wells in the Carrizo Aquifer and Sparta Aquifer
- Dismantling of temporary pumped water interconnect and demolition of old pump house at University Drive Pump Station
- Water supply interconnects with City of Bryan and Texas A&M University to ensure reliability for all three systems
- New chlorine facilities at Dowling Road Pump Station
- Relocating water and sewer lines for Texas Avenue widening
- Water service extension to Rock Prairie Road, Bird Pond Road, and Barron Road
- Purchase of land for additional 10-million gallon Ground Storage Reservoir
- Installation of emergency backup power at key water and wastewater facilities

## WATER RESOURCES: MINOR AQUIFERS PROJECT



*A new water supply project that kicked off in December 2005 will provide College Station with an additional source of water production to meet peak summer water demand. Construction began in late January 2006 on two new shallow water wells, co-located with existing City-owned water facilities. One well will be drilled in the Carrizo Aquifer and one well will be drilled in the Sparta Aquifer. The new wells are expected to provide an additional 2 million gallons per day of water capacity when they are put into service.*

## ASSESSING COLLEGE STATION'S SOURCE WATER

The TCEQ has completed a Source Water Susceptibility Assessment (SWSA) for College Station's source water, and the results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for College Station's water system are based on this susceptibility and previous sample data. All contaminants that were detected through this sampling are described in this Drinking Water Quality Report. For more information on source water assessments and protection efforts at College Station Utilities, please contact Jennifer Nations at 764-6223 or jnations@cstx.gov.



## DID YOU KNOW..?

Although College Station's water and wastewater infrastructure has grown 30% in the last 10 years, our number of operators has only increased by 8%. Here's a sample of what College Station's licensed water and wastewater operators maintain*:

**341** miles of water line
**274** miles of wastewater line
That's an average of **18 miles of line** for each water distribution and wastewater collection operator!
**2,165** Fire Hydrants
**30,000+** water connections
**6** wastewater lift stations
**4,737** wastewater manholes
**4** System Emergency Inter-connections
**2** Water Pumping Stations
**2** Ground Storage Tanks: 8 million gallons total
**2** Elevated Storage Tanks: 5 million gallons total

** Figures from calendar year 2005*

## NEW CHLORINE FACILITIES

*In late 2005, work began on construction of a new Chemical Feed building at Dowling Road Pump Station. This project will help to protect the public health and safety, provide capacity for growth, and improve security.*

*College Station water operators dismantle the temporary pumped interconnect at the old University Drive Pump Station.*

# WATER QUALITY TEST RESULTS: WHAT'S IN YOUR DRINKING WATER

Independent laboratories certified by the EPA and State of Texas perform all required testing. All substances detected in routine testing are detailed below. All are below the Maximum Contaminant Level (MCL) and do not exceed the health-based standards for drinking water.

| INORGANIC CONTAMINANTS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Year Sampled | Contaminant | Unit of Measure | Average | Range Detected (Lowest - Highest) | MCL | MCLG | Possible Sources |
| 2004 | Copper | ppm | 0.002 | 0.002 - 0.002 | 1.3 | 1.3 | Corrosion of household plumbing systems; Leaching of wood preservatives; Erosion of natural deposits |
| 2005 | Fluoride | ppm | | 0.8 - 1.3 | 4 | 2 | Water additive to promote strong teeth; erosion of natural deposits |
| 2005 | Nitrate | ppm | 0.06 | 0.06 - 0.06 | 10 | 10 | Runoff from fertilizer deposits; Leaching from septic tanks; Erosion of natural deposits |

| DISINFECTANT RESIDUAL AND DISINFECTION BY-PRODUCTS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Year Sampled | Contaminant | Unit of Measure | Average | Range Detected (Lowest - Highest) | MCL | MCLG | Possible Sources |
| 2005 | Chlorine | ppm | | 0.83 - 2.16 | 4 | N/A | Added to drinking water for disinfection |
| 2005 | Total Trihalomethanes (TTHM) | ppb | 16.90 | 16.90 - 16.90 | 80 | N/A | By-product of drinking water chlorination |
| 2005 | Haloacetic Acids (HAA5) | ppb | 1.50 | 1.50 - 1.50 | 60 | N/A | By-product of drinking water chlorination |

| MICROBIOLOGICAL CONTAMINANTS | | | | | |
|---|---|---|---|---|---|
| Year Sampled | Contaminant | Highest % of Positive Samples | MCL | MCLG | Possible Sources |
| 2005 | Total Coliform Bacteria | 0.99% | Present in more than 5% of samples in one month | 0 | Naturally present in the environment |
| In 2005, out of 1,032 drinking water samples tested for Total Coliform bacteria, only one routine sample tested positive for Total Coliform bacteria. Coliform bacteria are used as an indicator that other, potentially-harmful, bacteria may be present. They are easily detected and their absence from drinking water is a good indication that the water is bacteriologically safe to drink. | | | | | |

| LEAD AND COPPER: REGULATED AT THE CUSTOMER'S TAP | | | | | |
|---|---|---|---|---|---|
| Year Sampled | Contaminant | 90th Percentile | Sites Exceeding Action Level | AL | Possible Sources of Substances |
| 2004 | Lead | 1.8 ppb | 0 | 15 ppb | Corrosion of household plumbing systems; Erosion of natural deposits |
| 2004 | Copper | 0.162 ppb | 0 | 1.3 ppm | Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives |
| The Lead and Copper results in this year's report are based on 30 samples collected for the last monitoring, in August 2004. The 90th Percentile based on these samples is 1.8 ppb for lead and 0.162 ppb for copper. 90% of College Station tap water samples collected were at or below these levels. EPA considers the 90th percentile the same as an "average" value for other contaminants. If more than 10% of tap water samples collected exceed the action level for lead or copper, water systems must take additional treatment measures. | | | | | |

| UNREGULATED CONTAMINANT MONITORING | | | |
|---|---|---|---|
| Year Sampled | Contaminant | Amount Detected (ppb) | College Station's water was sampled for contaminants included in the Unregulated Contaminant Monitoring Rule (UCMR) in 2002. All contaminants that were found are listed in the table at left. The next round of sampling for the UCMR will occur in 2008. Unregulated Contaminant Monitoring helps the Environmental Protection Agency (EPA) determine where certain contaminants occur and whether the EPA needs to regulate those contaminants. More information on the UCMR can be found on the EPA's website at: ***http://www.epa.gov/safewater/data/ncod.html or, call the Safe Drinking Water Hotline at: 1-800-426-4791***. |
| 2002 | Bromodichloromethane | 1.3 - 4.3 | |
| 2002 | Bromoform | 4.1 - 11.9 | |
| 2002 | Chloroform | 1 | |
| 2002 | Dibromochloromethane | 3.1 - 12.1 | |



## UNDERSTANDING THE "ALPHABET SOUP" OF WATER QUALITY ABBREVIATIONS

***Action Level (AL):*** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements a water system must follow.

***Maximum Contaminant Level (MCL)***: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the maximum contaminant level goals as feasible using the best available treatment technology.

***Maximum Contaminant Level Goal (MCLG)***: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

***Maximum Residual Disinfectant Level (MRDL)***: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

***Maximum Residual Disinfectant Level Goal (MRDLG)***: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

***micromhos per centimeter (µmhos/cm)***: A measure of the electrical conductivity of a water sample. Pure water has a conductivity of 0.005 micromhos per centimeter at 25° Celsius.

***parts per billion (ppb)***: one microgram per liter (µg/L).

***parts per million (ppm)***: one milligram per liter (mg/L).

TIP: One part per *billion* is the same as one cent in $10 million.
One part per *million* is the same as one cent in *$10,000*

***pH***: The pH scale extends from 0, very acidic, to 14, very alkaline or basic. A pH of 7 is neutral. Most natural waters fall within the range of 4 to 9.

***Secondary Maximum Contaminant Level (SMCL)***: The level of a contaminant that represents reasonable goals for drinking water quality. SMCLs pertain to contaminants that primarily affect the aesthetic qualities relating to drinking water.

## OTHER SUBSTANCES

The table below lists amounts of other substances for which College Station's water is tested. The Secondary Maximum Contaminant Levels (SMCL) are not enforced, but rather are intended as guidelines. These items primarily affect aesthetic qualities relating to drinking water.

| Substance | Year Sampled | Amount Detected | SMCL |
|---|---|---|---|
| Alkalinity (Bicarbonate) | 2005 | 459 ppm | None |
| Alkalinity (Total) | 2005 | 376 ppm | None |
| Aluminum | 2002 | 0.008 ppm | 0.05 to 0.2 |
| Calcium | 2002 | 2.96 ppm | None |
| Chloride | 2005 | 54 ppm | 250 |
| Copper | 2002 | 0.002 ppm | 1 |
| Fluoride | 2005 | 1.1 ppm | 2 |
| Manganese | 2002 | 0.01 ppm | 0.05 |
| Magnesium | 2002 | 0.65 ppm | None |
| pH | 2005 | 7.8 | >7.0 |
| Sodium | 2002 | 200 | None |
| Specific Conductance | 2005 | 882 µmhos/cm | None |
| Sulfate | 2005 | 9 ppm | 300 |
| Total Hardness (as $CaCO_3$) | 2002 | 8.14 ppm | None |
| Total Dissolved Solids | 2005 | 523 ppm | 1,000 |

On peak water use days, over 20 million gallons of water flows through the Sandy Point Pump Station in a single day.

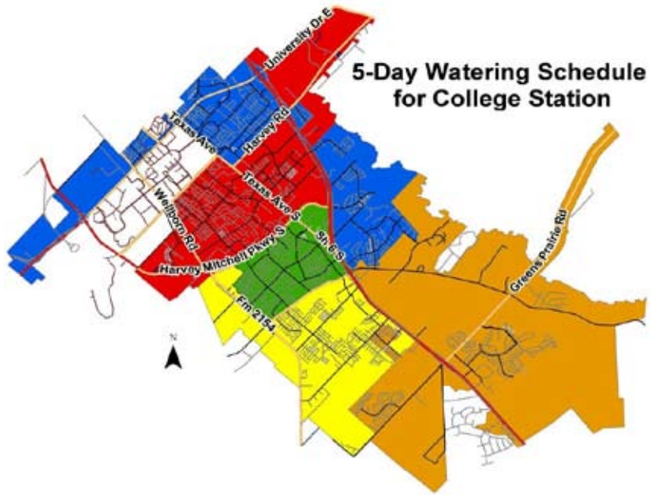
### *A Note About Bottled Water...*

In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amounts of certain contaminants in water provided public water systems, such as College Station Utilities. Food and Drug Administration (FDA) regulations establish limits for bottled water which must provide the same protection for public health as the EPA's limits. When drinking water meets all Federal and State standards, as College Station's water does, there may not be any health-based benefits to purchasing bottled water or point-of-use devices.

## NEWS YOU CAN USE...

***Save Water AND Save Money This Summer!***

- TIP: If it rains an inch or more, wait about a week before watering your lawn again.
- Check toilets, faucets, sprinkler systems, and pools for leaks, and fix them! Unrepaired leaks can waste hundreds, even thousands, of gallons each month!
- Upgrade to low-flow showerheads, toilets, and washing machines and reduce your water use by 34%!
- Fix broken sprinkler heads. Geysers and rushing rivers belong in Yellowstone, not your yard!
- Turn the water OFF when brushing teeth, shaving, or hand-washing dishes.
- Water BEFORE 9:00 am or AFTER 8:00 pm to avoid losing water to evaporation.
- Follow the ***5-Day Watering Schedule***, detailed at ***RIGHT***. It's based on your recycling days: If your recycling is picked up Monday, you're in Watering Zone 1; if your recycling day is Friday, you're in Watering Zone 5. Participation in the schedule is voluntary during Stage 1 of College Station's Drought Contingency Plan, but in Stages 2 & 3, participation is mandatory.




| Zone | Watering Days Each Month |
|---|---|
| 1 | 1st, 6th, 11th, 16th, 21st, 26th |
| 2 | 2nd, 7th, 12th, 17th, 22nd, 27th |
| 3 | 3rd, 8th, 13th, 18th, 23, 28th |
| 4 | 4th, 9th, 14th, 19th, 24th, 29th |
| 5 | 5th, 10th, 15th, 20th, 25th, 30th |

### *BACKFLOW PREVENTION: Is your hose hazardous to your health?*

A hose submerged in a pool or bucket is a common, but easily fixed, cross-connection. Be sure to keep an air gap between the water surface and the hose.

The term *BACKFLOW* refers to the flow of water in the direction opposite to the normal flow. The reversal of flow can be caused by either *BACKSIPHONAGE* or *BACKPRESSURE*, for example when water pressure drops during a water line break or fire event. A cross-connection is a connection between any part of the drinking water system and another connection where it is possible for other substances to enter the drinking water system.

During a backflow event, pollutants or contaminants can enter the drinking water system through unprotected cross-connections. You can protect yourself from backflow by installing hose-bib vacuum breakers on your home's outdoor faucets, and installing an approved backflow prevention device on your irrigation system. ***For more information on backflow, contact Environmental Services at 764-3660, or go to http://www.cstx.gov/utilities.***

A hose submerged in a pool (left) or bucket is a common cross-connection. This is easily prevented by a hose-bib vacuum breaker (right).

### READY, SET, XERISCAPE!

This...

...not this

This...

...not this

"Xeriscape," the term for water-saving landscaping, doesn't have to mean cactus and rocks. Beautiful Texas wildflowers and native plants fit perfectly into a water-wise landscape. Don't forget to use mulch, and water efficiently!



## FREQUENTLY ASKED QUESTIONS ABOUT COLLEGE STATION'S DRINKING WATER

Have you ever wondered where your water comes from or wondered what's in it? You're not alone. The questions and answers below are some of the most commonly asked questions about College Station's water.

### *Q: What is College Station's water tested for? How often?*

The State of Texas requires College Station to monitor your drinking water for over 100 different contaminants. Depending on the contaminant and regulations for that contaminant, the monitoring schedule could be monthly, quarterly, annually and in some cases less frequently. Below is a summary of what College Station's water is monitored for, and how often.

| Contaminant | Schedule | Last Sample | Next Sample |
|---|---|---|---|
| Total Coliform Bacteria | Monthly | 2005 | 2006 |
| Disinfectant Residual | Quarterly | 2005 | 2006 |
| Disinfection Byproducts, Nitrates | Annually | 2005 | 2006 |
| Minerals, Radioactivity | Every 3 years | 2005 | 2008 |
| Lead & Copper | Every 3 years | 2004 | 2007 |
| Metals, Volatile Organic Compounds (VOCs) | Every 6 years | 2002 | 2008 |

### *Q: If my water looks dirty or "rusty," is it safe to drink?*

Contaminants may be found in drinking water that may cause taste, color, or odor problems. Occasionally water may become discolored due to a water line break. These types of problems are not necessarily causes for health concerns.

If you experience discolored water, please report it to Utility Dispatch (24 hours) at 764-3638 so that we may promptly correct the problem. For more information on taste, odor, or color of drinking water, please contact College Station Utilities at (979) 764-3660.


### *Q: Where does College Station's water come from? How is it treated?*

College Station relies entirely on groundwater for its drinking water supply. Water is pumped from six deep wells drilled in the Simsboro Sand, which is approximately 3,000 feet deep in the Carrizo-Wilcox Aquifer group. Because of this depth, the water temperature is 118º Fahrenheit when it is pumped from underground. Cooling towers at the Sandy Point Pump Station reduce the temperature to about 85º Fahrenheit.

The groundwater travels approximately 13 miles from Sandy Point Pump Station to the Dowling Road Pump Station, where we add chlorine to disinfect the water. Ground storage tanks at Dowling Road provide a total of 8 million gallons of water storage for high demand periods. After the water is disinfected, it is ready to go into the distribution system, which includes two elevated storage tanks. The elevated storage tanks are what provides water pressure and provide additional water storage for peak demand periods and for fire protection.

### *Q: What exactly is in my drinking water? Anything I should be concerned about?*

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

### *Q: If my drinking water has contaminants in it, does that mean it's not safe to drink?*

***All*** drinking water, including ***bottled*** water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. In fact, when drinking water meets Federal standards, as College Station's water does, there may not be any health benefits to purchasing bottled water or using point-of-use devices. More information about contaminants and potential health effects can be obtained by calling the EPA's **Safe Drinking Water Hotline at (800) 426-4791.**

### *Q: I have a weakened immune system. What do I need to know about drinking water?*

**If you have a weakened immune system, you may be more vulnerable than the general population to certain microbial contaminants, such as Cryptosporidium, in drinking water. Infants, some elderly, or immunocompromised persons such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections. You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the *EPA's Safe Drinking Water Hotline at (800) 426-4791 or http://www.epa.gov/safewater***

### *Q: What is the hardness of the water? And why can't I get the soap out of my hair?!*

Hardness in water is caused by the presence of calcium and magnesium and is measured in mg/L of calcium carbonate ($CaCO_3$). College Station's water has a hardness of 8.14 mg/L and is considered "soft" (0 - 75 mg/L $CaCO_3$). This softness is a characteristic of our source water. The good news: Soft water makes suds and cleans very easily, so you can get by with using a lot less soap and detergent!

*TIP! To convert hardness from parts per million (ppm) to grains per gallon (gpg), divide hardness in ppm by 17.1 (one gpg is 17.1 ppm).*


**FUN FACT:** There are over 2,000 fire hydrants (and lots of happy dogs) in College Station.